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FRENCH METHOD



..OF..

INTENSIVE
CULTIVATION
AND
ASPARAGUS
FORCING

..BY..

H. HERRMAN

PRICE,

\$1.00



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FRENCH METHOD

**OF INTENSIVE CULTI-
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GUS FORCING : : :**

**A Treatise on the French Method
of Gardening**

BY

H. HERRMAN

FRENCH METHOD

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A Treatise on the French Method
of Gardening

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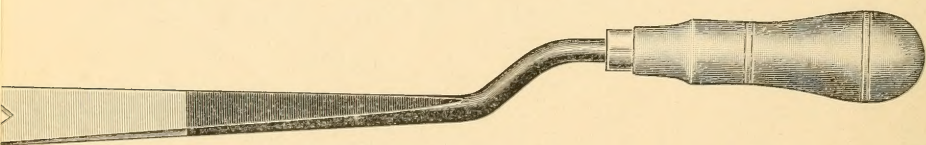
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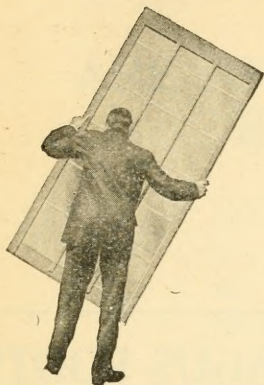
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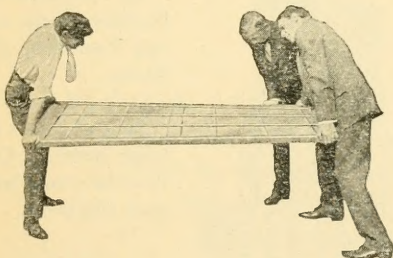
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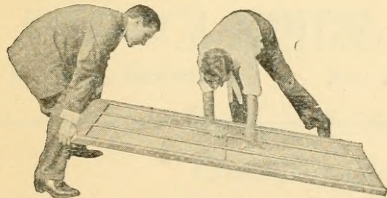
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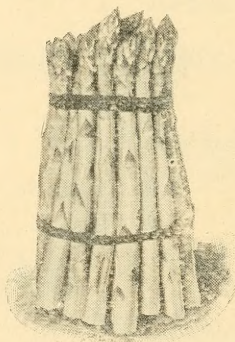
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PREFACE.

Gardeners, both commercial and amateur are beginning to realize more and more the necessity of intensive cultivation and the intensive system is attracting greater attention all the time.

Believing that a treatise of the French method of cultivation would be of material assistance to all growers of vegetables, I have published this book, trusting that it will fulfill its intentions.

I feel assured that when the truck grower follows the line of intensive gardening he will increase his revenue many fold.

Actual results have proven that incomes from \$1,500 to \$2,000 per acre are not impossible.

The high prices of food stuffs is due to a lack of crops sufficient to feed the ever increasing population of our country, and I know of no other line of business that presents the same profitable returns than vegetable growing insures. It should appeal to the better classes who are now struggling in our larger cities with life's problems and are receiving in return but a bare living.

The illustrations and some of the suggestions in this publication are taken from a book called "*The French Garden*", by C. D. McKay, F. R. H. S., of London, England.

THE PUBLISHER.

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CHAPTER I.

THE NEW FRENCH METHOD OF FORCING ASPARAGUS IN ONE SEASON.

A French merchant living in the capital of France upon retiring from business, removed to the outskirts of Paris where he devoted his energies to vegetable growing, taking particular interest in asparagus. It is his successful method of forcing that is given below.

To secure a succession of asparagus all winter and spring, a new hot-bed planted with fresh plants, must be made every three or four weeks, from the beginning of October to the end of February or March, which will furnish a constant supply of asparagus from November till the arrival of the natural crops in April or May. It is during this period that it will bring the highest price.

Asparagus to be forced does not demand the use of hot-beds; they can be forced in heated houses or pits. It has been successfully tried this way at the Missouri Station at Columbia and at Cornell University.

There is a market all the time for either green or white asparagus; the first asparagus that comes to Chicago is sold at \$10.00 per box, containing twelve bunches.

Hot-beds for forcing asparagus must be made of fresh, hot manure and must be made very substantial. It will take about two good-sized wagon loads of the manure to make a bed of the proper dimensions. You must select fresh stable manure, that which is wet and full of heat, throwing aside as much of the bedding or straw as is possible. Select a good dry spot facing the south, make it on top of the ground, about four feet wide and seven feet long so that it will be six inches wider than the frame all around. In beginning to make the bed be sure that you mix the manure well and when you lay the manure beat it down well with a fork. Let the bed be about three feet high so that when it settles, in two weeks, it will only be about two and one-half feet high.

At this time put on frames and sash and keep the sash closed until the heat begins to come up, then raise the glass, that the steam may pass away. Now fill in the frame with rich, light, dry earth or compost, which has been made ready at this season under a dry shed, to a depth of six or seven inches. Next year you can use the exhausted manure for this purpose. If the bed has settled unequally, take off the frame and level it with a rake .

The bed is now ready for the reception of the plants. Three-year-old plants must be used (they can be secured from any nurseryman at \$4.00 or \$5.00 per thousand). No time must now be lost in making the most of the hot-bed; take off the sash as the heat may be too strong. Raise at one end of the frame a ridge of earth about 5 or 6 inches high, against which you are to place the first course of plants; place them as close to each other as is possible; gather a little earth around the roots of the plants just placed and then put on another row of plants as close as is possible. Keep this up until the entire frame is packed with plants. The tops or crowns of the plants must be placed upright and level, and when entire frame is full you must see that some moist earth is placed all around the frame and against the plants, but about two inches higher than the tops; now cover the tops of the asparagus about two inches deep with rich, light earth. This is all that can now be done until the shoots begin to appear through the earth.

About twelve days after the bed is made and planted, if the heat becomes moderate, or if very bad weather, snow or excessive cold follows, you must cover with sash. If you have a large bed, the heat will continue in it longer, therefore, be cautious in putting the frames on too soon, or before the buds begin to push up. Protect the tops when required with straw mats. When the buds begin to appear, put on three or four inches more of earth. This will make in all six inches of earth on the roots. Now put on the glass sash. It will be necessary to occasionally open the sash an inch or two to allow the steam to pass away and to admit fresh air. This is especially necessary when the buds first begin to appear.

Carefully test the heat of the bed every day for the first week or two after it is made. You can do this by pushing three or four sticks half the size of a broom handle between the roots into the manure in various parts of the bed, leaving them there, only taking up twice a day to see if the lower parts of them are warm; so you should judge from this if the bed is too hot. If it is too hot, you may lessen it by punching several holes in each side of the manure with a large stick. When the heat has died down to some extent the holes must be closed.

If the bed gets too cold, you can renew the heat by placing hot manure on the sides of the frames.

You must allow fresh air to get into the frames every nice day, especially if the heat is very strong, also when the buds begin to appear through the earth; this is necessary to give the plants color, but always keep them closed on bad, cold days.

Cover the glass each night with straw mats or boards.

If you manage the hot beds as above you will have asparagus abundantly in four or five weeks and if you keep the heat up it will produce buds for three weeks.

To gather the asparagus from hot-beds you must insert your finger gently into the earth and break them off close to the roots. If you would cut them with a knife as when planted in the ground, it would result in destroying more than you would gather, because the buds come up very thick, one under the other. In order to have a constant supply of asparagus during the winter and spring, until that in the open ground comes up, make a hot-bed every three or four weeks. A fresh quantity of roots must also be secured for each new hot-bed.

The cheapest way and more satisfactory way is to buy the plants from a nurseryman, but if you should want to raise them yourself it can be done as follows: Have three pieces of ground, one for the seed bed, which should never stand longer than one year before taking up the plants; the second for one year transplanted plants; the third for the two year plants. When they are three years old they will be ready to be put in the hot-bed.

CHAPTER II.

INTENSIVE CULTIVATION.

Under intensive cultivation it is more practical to work only an acre or two—one acre really being all that one man can take care of; the returns from this should be entirely satisfactory to the most exacting.

French growers use, to a large extent in growing lettuce, small “chassis” and a great number of them “cloches”, or bell glasses, but it is just as practical and satisfactory to use cold frames or hot-beds.

It is necessary to have a large supply of manure and to be near a water supply that will furnish irrigation.

The use of high-grade seed is absolutely essential, buy the highest priced you can secure and those that are particularly adapted to either forcing or summer growing as the occasion demands.

The ground, if possible, should have a southernly aspect, and under no circumstances should it be a cold or wet piece of land.

August is the month to begin preparations for the fall and winter forcing. Arrangements should be made to secure sash and frames for your hot-beds; this can be bought of any lumber mill in your locality. I recommend, however, the use of sunlight double glass sash as it overcomes the inconvenience of covering and uncovering with straw mats as the temperature changes. If you are working a one-acre tract we would not have over one-eighth of an acre for hot-beds, as this will be quite enough to make it pay your time and energy. The manure should be collected during the summer months and kept wet all of the time, so as to thoroughly rot. When ready for hot-beds in November and December it can be mixed with hot, fresh manure.

All seed should be sown in October, from the 1st to the 15th, but under no circumstances must fresh manure be used in earth where seed is sown; it must be rich, warm earth that has been prepared in advance. The cabbage and lettuce seed must be

sprinkled thinly on the soil; they will come up in four or five days and should be ready to be thinned out at the end of ten days so they will not crowd each other; they should be covered each night with the sash and if very cold temperature is expected, then the sash must be covered with the boards or straw mats (unless you use the sunlight sash). In January the plants will be ready for transplanting and the hot-beds should be prepared for the first crops. The lettuce should not all be transplanted at once, but should be planted so as to come in rotation. The manure ought to be spread over the ground about a foot wider than the frame and beaten down tight to the depth of nine inches, the frames placed on the top of this manure; now they should be filled to the depth of six inches with the very best black soil that has been mixed with one-year-old rotted manure, and this well pressed down and raked. You should use every inch of space for cultivation and you should have at least four crops during the winter. As soon as the beds are ready for the lettuce, sow some radishes thinly, at the same time sow some very early, small carrots, also very thinly, in the same frames. The bed must be high enough within the frame so that the plants will not be more than four inches from the glass and the plants should not be placed nearer than four inches from the side of the frame, so that the shadow of the frame does not draw them. These frames are now complete and you must attend to watering them and all that is necessary to develop them. The radishes will grow very quickly and will be ready to be pulled in about six weeks after they are sown. This will give more room for the development of the lettuce, which will grow quickly now and should be ready for cutting in eight weeks.

After the lettuce has been cut, plant out some cauliflower that has been started in another hot-bed. After these have become well established, it will be about April 1st and the sash can be taken off and a little later the frames; the ground can now be utilized for melons and cucumbers, the plants of which have been gotten ready in a small hot-bed. The carrots and

radishes which have been growing in the frames must be carefully thinned to allow them to develop more quickly.

Properly attended to, the early cauliflower are ready for cutting after seven weeks, sometimes it takes longer. Directions for sowing cauliflower and the method of attending them in the frame is given in the calendar which is given in the latter part of this book.

CUCUMBERS AND CANTELOUPE.

While the crops heretofore described have been coming on, you should have prepared hotter beds than the soft ones required for the lettuce, for raising early cucumbers and canteloupe. After the lettuce have been cut and disposed of and the cauliflower well rooted, the canteloupe and cucumbers are ready for planting out; one cucumber should be planted under each light and four canteloupes. Use one variety of canteloupe and only one fruit should be allowed to mature on each plant. You must use cucumber seed that are suitable for hot-bed forcing. Hardy varieties are, of course, of no value for forcing purposes.

Cucumbers do remarkably well under these frames, and are much better for eating purposes than those grown in an ordinary way.

These should be sold very profitably, as they are grown at a time when nothing else can be grown under these frames.

If you are cultivating two acres it is, of course, much more than is required to be cultivated under glass. The extra ground should be carefully plowed and used for growing outside crops, of which a list is given further on, and it is strongly recommended that some of the same cauliflowers, planted in the frames, should be grown in the open ground, also some early cauliflowers. You can sow these about the middle of August, but in the frames in early winter. About June 1st they will be ready to sell. It is the French growers' idea to grow only such vegetables for which there is a big demand. It is a good idea to grow such truck as is not largely grown by others in the neighborhood. It is very well to grow such salads as will be suggested later on.

CHAPTER III.

RHUBARB.

To force rhubarb during the winter months requires that you dig a pit one or two feet deep, the sides can be built up with boards, brick or concrete about two feet above the ground and covered over with iron roofing or rubberoid roofing or any roofing that will keep the pit dry and not allow light to reach it. Get the required number of good-sized "stools" of rhubarb to plant in the pit; the heat generated in this pit will be enough to force the rhubarb rapidly. But remember that the pit should be kept closed tight to keep out the light. Rhubarb can be forced in a cave, cellar or outhouse that is dark and fairly warm. Rhubarb forced in this way will give you those delicate stalks that in the early spring demand such a high price.

The most important thing in rhubarb forcing is the root supply. To experiment with young or old debilitated stock or clumps would spell failure. These must not be allowed in the forcing pit. They can be made strong and gain size and age under better cultivation. If they are old and worn out they can be replanted and allowed to form new roots.

Having your roots on hand they will be assisted by cultivating and heavy fertilizing. Work the ground thoroughly and give them a big supply of good manure. The forcing pit must be in a place secure from frost and absolutely free from light. The last caution is a very important point, as the least light injures its color and quality and causes a leaf growth and crooked stalks. The floor of the pit can be concrete, brick or earth. If a concrete or brick floor it will be best to cover with three or four inches of good soil, set the roots closely together on the top of soil and cover the roots with fine soil so that it will fill all the spaces with soil. The whole surface may or may not be covered and if entirely covered only enough earth should be used to level the top, which will make watering more convenient.

If just enough rhubarb is wanted for home use it can be

forced in a box that is placed in the kitchen or cellar or any place that will not allow the temperature to get below the freezing point. But be sure to keep box covered to exclude the light.

As soon as the stalks have grown so much that they become feeble take them out and replace with new roots.

The old stalks may be replaced in the garden and allowed to recover from the forcing by not having any shoots removed for a season or two.

FORCING STRAWBERRIES.

About one-quarter acre of strawberries will prove very profitable. In the fall, which is the usual time for putting out strawberry plants, secure the strongest plants and plant them as in the usual way you would out-of-doors, only you plant them in cold frames or build up on all sides with a one-foot board in back and a ten-inch board in front. About April 1st there should then be placed on top of these boards a cold frame sash. You will have strong and healthy plants by this time. From this time on, April 1st, you must see that they are carefully and plentifully watered. The sash must be removed when watering so that you will not be troubled with red spider or mildew. Just as soon as the plants are covered with glass they will start into active growth, and the bloom which is waiting for warmth, will begin to open. These strawberries will be ready for gathering before the out-door crop can possibly be ready. When the berries have all been picked the sash and wooden boards that have been placed on the sides can be removed and stored until next season or used for other purposes, as shown in this book.

PREPARING SOIL FOR STRAWBERRIES.

Before setting strawberry plants it is best to plow your earth, crush your clods and mix manure with your soil; it can be mixed better and cheaper. Spread the manure over the ground where you intend to plant your strawberries during the winter

months and see that it is distributed evenly over every foot of ground. This will protect the earth during the winter and will not allow alternate freezing and thawing of the soil; it will also maintain a richness and mellowness of the soil. In the spring plow under and follow with a disc plow until the manure is thoroughly mixed with the soil and all the clods broken, and the earth crushed perfectly fine. Then go over it with a roller until the earth is quite firm.

A light dressing of hard wood ashes spread over the earth will be a good thing before putting in your plants.

MUSTARD AND CRESS.

Suppose your ground is situated in a part of the country where cress and mustard are little grown, it would certainly be profitable to put in one or two frames in these crops and they can be kept going regularly for cutting every week or two or three times a week. In nearly all cities there is a big demand for these salads and there is very little of it grown. Both of them are very easy to grow. The best method for growing them is to utilize the frames which have had the manure exhausted, and to spread on each a bass mat which has been thoroughly soaked in water, the seed should be very thickly spread over it, but no soil of any description should be used. When the crops have grown to a proper size, it can be cut with knives and tied in small bundles; these will be free from grit, whereas when it is sown in earth it is always gritty and dusty.

EARLY CAULIFLOWER.

Sow cauliflower, securing early seeds, the last part of August; this will be to raise plants to stand over the winter to produce an early crop next summer.

It must not be sown earlier than the 25th of August, or it may cause the plants to bloom in the late winter or early spring when they are in their infant state. If they bloom the flowers will never exceed the size of an ordinary button, and you would

likely lose your early crop of full-sized flowers at the proper season. If you sow your seeds later, the plants will not be strong enough to resist the winter's frost.

It is really best to sow seed twice—once on the 25th and then again on the 28th.

The plants secured are for your earliest crops in the spring; they may be planted for good in the cold frames or a better way is to plant them in small paper pots and these placed in the cold frames to protect them from frost, for final planting out in the spring or if you haven't the cold frames and sash to spare, the pots can be planted next to a wall facing the south, about three inches apart, and allowed to take their chance with the cold weather, covered with paper or straw mats in real severe weather. But the best way is to place the paper pots in cold frames.

The seed should be sown as told above. To prepare a bed for the seed, select the richest ground you have, decide on the size bed you want, sow the seed immediately and rake over very carefully. If the weather is dry let bed be watered moderately from time to time, and shaded in hot weather. This will make the beds come up soon; they will grow very regularly and all of the same size. When the plants come up, continue watering the bed moderately at least every two days in dry weather.

During the last week in September the plants should be put in the small paper pots and placed in the cold frames, or another rich spot may be dug up for them that will protect them with a south wall. But if in potting these plants, those that you may select for finally setting out in the frames in February or March, should be rather small, it would be advisable to keep them covered with the glass sash, so as to force them and make them stronger, to be able to stand the cold weather.

The hardiest plants are to be planted out permanently in rows in February or March and these covered with the cold frames. Those plants that are intended to be wintered in the frames and not planted in pots may be taken out from the seed bed at once and put in a bed four feet wide, in earth that is light and rich, placed in a sunny situation, one facing south

preferred, and the plants set three inches apart. The beds must be suitable in length for the frames to be placed thereon, and they must be protected from cold weather with sash during the winter months.

Water a little when planting. Keep the sash on until the plants are well rooted, raise the sash so they will get air on mild days.

On rainy and cold days close the sash, on warm and dry days raise the sash to let them have plenty of air. Continue to manage them this way until March or April or until the weather is broken and there is no danger of frost. They can then be managed as shown in September, October, November and December.

CHAPTER IV.

WHAT TO DO IN AUGUST.

CARROTS, ENDIVE AND WINTER SPINACH.

A small amount of carrot seed should be sown in August, in the open ground, to stand throughout the winter for spring use; sow some in the first week of August. Carrots from such a sowing can be sold during the next early spring. Seed must be sown on well-broken and prepared soil. Do not sow it too thick and rake it carefully.

At the same time sow some prickly or winter spinach, for early and general spring supply; do not sow these later than the second week in August, so that the plants will grow to a good size before winter. Do not sow earlier, especially if the ground is rich, for it is likely to get rank and may be run to seed before winter or early in spring. The ground should be well drained so as to be dry in winter.

When the leaves of the plants are about an inch wide, thin them out and get rid of all the weeds in the bed. Thin the plants regularly to a distance of about three or four inches of each other. In this way they will grow stocky and will produce large, heavy leaves.

Sowing in August will permit you to gather the spinach from October clear up to May first.

Sow a small quantity of endive, selecting such seed as you think best from some of the catalogs. When they come up, transplant some of the strongest plants. After trimming off the extreme ends of the roots and weak, straggling tops of the leaves, plant them one foot each way in good soil. Water as soon as planted and in dry weather water every two or three days until the plants have taken root.

CHAPTER V.

WHAT TO DO IN SEPTEMBER.

EARLY CAULIFLOWER, BLANCHING ENDIVE, STRAWBERRIES.

From the first of September to the last, sow cauliflower seed in the open ground, in an old hot-bed or a piece of open ground; these will come up in about eight days, about twenty days after they come up they will be ready to place in frames, so that they may be covered with sash. Take a piece of ground the width of your frames, and cover with two inches of rotted manure from some exhausted beds. Do not plant too close; if they should happen to be, a little later on, you can again transplant some of them. If the season is an open one, you may find it necessary to pull them up and transplant them again in the same place. This will set them back a little, which is intended. Let them have air every day the weather is good, this will harden the plants so as to make them more able to stand the cold weather. Cabbage lettuce can also be planted between these cauliflower. Before cold weather sets in the sides of the frames can be banked up with manure and, when necessary, cover the tops of the sash with straw mats.

The cauliflowers will be ready to cut in April. The early cauliflower plants, which were sown in August, will be ready to be potted in paper pots or planted out in frames, about the middle or not later than the 20th of September.

Plant them in rows about three or four inches apart and allow the same distance between the rows. Do not plant them too deep, for that will have a tendency to kill them.

Just after planting, give them a little water to settle the soil to their roots, but do not water hurriedly, that you may break their leaves or run some of the earth into their hearts.

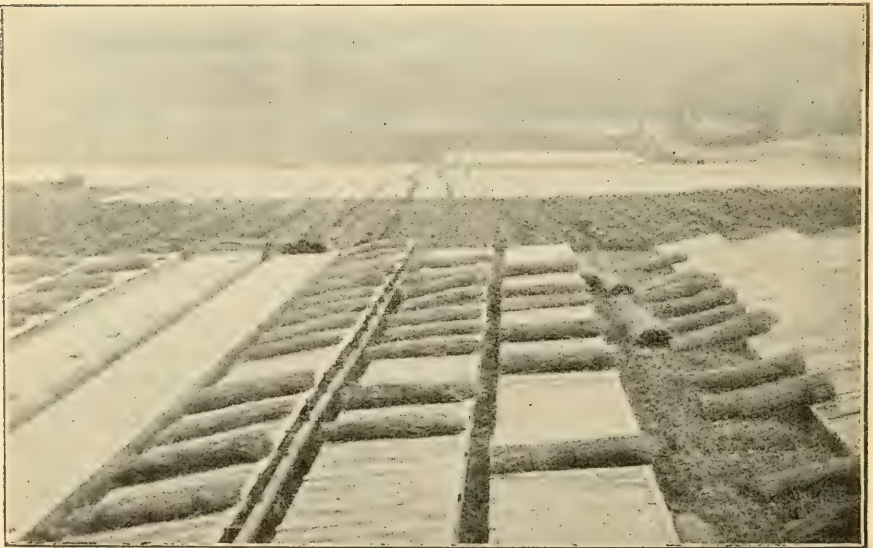
Keep the sash on for three or four days until the plants have taken root and shade them from the sun. After they have rooted the sash must be taken entirely off, and used on various occasions during the month, or say three or four weeks.

If cold nights or heavy rains follow, put on the sash as too much rain or water would make them rot.

To blanch the endive plants white, tie the leaves together. Do this in dry weather, choosing plants of good, hardy growth and those that are full in the heart. Gather up the leaves evenly in your hand, and tie them about the middle of the plant with a piece of cloth that has been torn into narrow strips. This will make them white, tender and crisp.

HOW TO PREPARE SOIL FOR STRAWBERRIES.

September is the best time to plant strawberries. If the weather is moist it may be done any time during the month, but if the weather is very dry and hot, do not plant until the latter part of the month. Secure the best plants of any variety of your own selection. Plant these in rich ground facing the full sun, so as to ripen the berries to perfection. The rows should be fifteen inches apart and the plants the same distance apart.



A French truck grower's entire garden under glass.

CHAPTER VI.

WHAT TO DO IN OCTOBER.

WINTER CABBAGE, LETTUCE, EARLY COLD FRAMES.

Winter cabbage lettuce is a small variety, having very small hearts. It grows unusually well under sash, but it is of no use except for this purpose. Lettuce can be had all through the winter by following these instructions:

During the first of October sow the seed in the cold frames and just as soon as the two leaves make their appearance, thin them out and transplant in other cold frames. Some time during next month, November, dress around with old manure taken from old exhausted beds. Protect the sash well from frost and heavy rains by covering with straw mats; these should be taken off during the middle of the day when the weather permits, but the sash must remain in order not to let air in on the plants. The market gardeners of Paris employ Romaine Early French cos for winter culture, in the same manner as

French cos lettuce is the same as our Grand Rapids lettuce and the early French frame the same as our Big Boston.

The seed of this Cos lettuce is sown during the early part of October. Its cultivation is the same as the early cold frame, but to avoid mistakes we repeat the plan. During the first week prepare a well-sheltered bed that faces the south; after the earth is dug, rake carefully and on the top of this put two inches of rich compost.

Make the bed as level as you can and place the cold frames on top of this bed. Now sow the seed thinly in each frame and cover with half an inch of very fine soil, placing the sash on top of the frames. The seeds will come up in about four days and about two weeks afterwards the plants should be thinned out and transplanted in cold frames placed on beds prepared in the same way as for sowing the seed. These plants will take root in a few days, and as the cos lettuce likes air, raise the sash a little during the day and be sure to see they are shut at night.

When cold weather arrives, cover the sash with straw mats and pack the outer sides of the frames with manure. When the cold weather has gone, remove the mats and give the plants air if the weather permits.

In thinning out and transplanting, the cos lettuce and early French frame lettuce can be planted in the same frames. This transplanting can be done either in January or February. Each frame should contain four early French frame lettuce to one cos lettuce. These lettuce should not be planted too close together, as the ground between the lettuce plants should be sown with early carrot seeds.

The early French frame or cabbage lettuce will be ready to cut before the cos lettuce have room to develop. After the cos lettuce has been cut, take off the sash and thin out the carrots if too thick. You should continue to tie up the full-grown endive plants for blanching as directed in September.

During the early part of this month you may begin making your hot-beds for forcing asparagus, the method of which has been shown you in Chapter I. New hot-beds must be made every three or four weeks from now on till the end of March. This will furnish you a constant supply of green asparagus until the arrival of the natural crop in May.

CHAPTER VII.

WHAT TO DO IN NOVEMBER AND DECEMBER.

CAULIFLOWER AND ENDIVE.

On dry days be sure to tie up the full-grown endive plants to whiten them.

Allow the early cauliflower plants, which are in frames for the winter, to have air every day, when the weather is mild and dry. Take the sash off in the morning and put them back in the late evening. When there is much rain, keep the sash on; and if the weather is mild, with rain, just raise the sash two or three inches to allow the fresh air to reach the plants.

If dead leaves should appear at any time on the plants pull them off, and keep the bed well weeded.

If you have failed to thin out and transplant the cauliflower, as told last month, be sure to do it in November.

Be on the look-out for slugs among your cauliflower plants, this is the season they attack them.

During December look over your cauliflower plants very carefully, and pick off the decayed leaves as they appear.

Each day the weather is mild and dry, take off the sash, so that the plants may have all the air possible; put them back at night.

If there is much rain, keep the sash on. If it is raining and the weather is mild, just raise the sash two or three inches on one side.

In severe cold weather, keep the sash on all of the time and covered with straw mats and bank the outside of the frames with manure.

If the weather is dry during December, continue to tie up the endive for blanching.

CHAPTER VIII.

WHAT TO DO IN JANUARY.

SOWING RADISHES AND CARROTS BEFORE PLANTING LETTUCE.

You should prepare your beds for the lettuce plants, which are to be transplanted for the last time this month. The manure which you have collected during the summer and autumn can now be mixed half and half with new, fresh manure, this will make heat enough to push the lettuce along and just enough to promote the early germination of the radish and carrot seed, and force them without making them shanky and leafy.

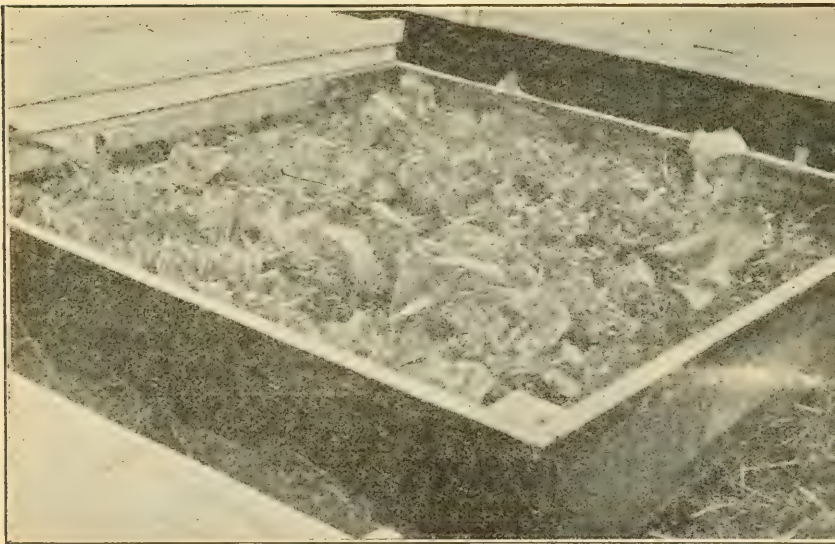
Spread the manure evenly over the ground to the depth of nine inches. When done, set on the frames and lay about three inches of good, light garden soil inside the frames; in this sow some of the best early forcing radish very thinly and some early carrot seed, sow both seeds evenly through the frame, press down into the earth with a spade and cover with light, rich soil to the depth of one-half inch. In some of the frames, instead of sowing carrots you may sow turnip seed.

After these seeds are planted, plant the lettuce plants firmly on the bed. Keep the sash on and do not give air.

The cauliflowers in the sash must have air every mild day. Just raise the sash on one side two or three inches facing the warmest side. In cold weather keep the sash closed and in severe cold weather put straw mats over the sash and back manure on the outside around the frames. In warm weather, allow them to remain open as long as possible. This keeps them from drawing up weak or blooming out of season. You must be sure to put them down every cold day and night.

During the latter part of January sow a small lot of early French cauliflower in a hot-bed, to follow the winter standing plants or to replace any killed by the frost. See instructions in February.

In dry, open weather, let some of the best full-grown endive be prepared for blanching. Let the plants be quite dry, and tie the leaves of each plant together; they will be blanched for use in a fortnight, suitable for salad.



A hot bed frame containing carrots, cauliflower and lettuce---the radishes have already been pulled.

CHAPTER IX.

WHAT TO DO IN FEBRUARY.

EARLY CUCUMBERS AND CANTELOUPE; CARE OF CAULIFLOWER PLANTS; STARTING TOMATOES.

During the first month of February sow canteloupe and cucumber seeds. You must secure the best seed of the earliest varieties. It is best to secure seed that is three or four years old if possible, as plants grown from such seed will fruit earlier than if you plant new seed which have a tendency to run too much to vine; they often run a considerable length before fruit appears.

Make a small hot-bed of fresh stable manure in which to raise plants to the proper size to transplant into larger hot-beds during March. A small bed of one or two sash will be sufficient, and two carts of fresh manure will be enough for a bed of two or three sash. Secure fresh, steamy stable manure that is moist and full of heat, getting rid of the dry, long straw and exhausted parts before making it into a bed. If the manure is very rank, it is best to mix it well together in a heap and let it remain this way for about ten days so as to ferment equally. This will also allow the rank steam and fierce heat to evaporate. It will then be of the right temperature to make into a hot-bed.

Make this hot-bed in a sheltered, well-drained spot facing the south. Make it on top of the ground the proper width to accommodate the frame. The sides of the bed should be well lined on all sides with fresh, hot manure which will prevent the bed from cooling.

When making the bed, allow it to be three inches wider than the frame all around. Mix the manure well when putting it on the bed and beat it down with the back of your fork; but do not pack it too hard as it will not work as well and will be more liable to burn than if it is allowed to settle gradually by itself. Let the bed be about three feet high, and it should set-

tle about eight inches in about a week or two after it is made. As soon as it settles put on the frames and sash, keeping the sash closed until the heat begins to rise, then raise the sash to allow the steam to pass away. About four days after making the bed, put three or four inches of rich, light, dry earth or compost which has been made ready under a shed.

After you have been gardening for a year you can use the old, exhausted manure for this purpose. If the bed has settled unequally, take off the frames and sash and level it, putting on the frames again. Then fill small paper pots with the same kind of earth or compost as was used for earthing the bed, place them in the frame, put on the sash and allow them to remain until the soil in the pots is warm, then sow the seed in the pots, both of cucumber and canteloupe, two in each pot and lower the pots a little into the soil.

After this keep the sash closed. Raise one corner of the sash one-half an inch whenever necessary to allow the steam arising from the heat of the bed to evaporate. This must be done to prevent any burning tendency from the great heat in the bed in its early stage.

Cover sash each evening about an hour after sunset with straw mats and uncover them every morning between eight and nine o'clock. Be careful in covering up with mats at night while the heat is still strong and steam continues, to raise the end of the sash about half an inch to allow the rank steam arising to pass away and to admit a moderate degree of fresh air. When this is done, be sure to allow the straw mat to bend down a little over the end where the sash is raised. This must be done especially when the plants are beginning to grow to prevent the cold air from rushing into the frame. Great care must be taken that the earth in the pots does not have too much heat. Examine each day the heat in the bed and if there is any appearance of burning, raise the pots a little farther from the manure without disturbing the seeds or plants. In this way you can prevent all injury from too much heat if you examine the bed every day.

The plants will appear in about four days; you must then admit fresh air into the frames by raising the end of the sash a little each day.

If the soil in the pots should be dry, moisten very moderately with a little water that has had the cold chill taken off. Water about noon and only the soil around the roots, and not over the tops of the plants. After watering close the sash down for about an hour, then open up a little and close towards evening. Continue to cover every night with straw mats. After the heat becomes more moderate, close the frames every night and uncover each morning to allow light, sun and air to the plants. Whenever possible, admit fresh air in the daytime to strengthen the plants.

Fill some of the paper pots with rich, dry compost and set them in the frame till the next day so that the soil will become warm. Into these are to be potted the seedling plants; raise the plants with your finger with all the roots as entire as possible, and with as much of the soil as adheres to the fibres. The pots filled with soil being ready, make a little concave soil, place the plants in the hollowed part, with the roots toward the center and cover the roots and stems an inch with soil. Water very little and plunge the pots into the soil in the bed again close to one another, filling up the places between the soil and letting every part of the bed within the frame be covered with as much earth as will prevent the rising of the rank steam immediately from the manure, which would destroy the plants.

In two or three days the plants will have taken root, although sometimes they take root within twenty-four hours if the bed is in good condition. After the plants are well rooted, if the earth is dry, give them a little water at the warmest time of the day. The best time is when the sun shines. Repeat watering occasionally and very moderately as the earth in the pots becomes dry and seems to need it, always using water that has had the chill taken off and always in great moderation.

Examine the best in the bed very carefully in about two weeks and if the bed has lost much of its heat, apply a lining of fresh, hot manure on the outside. If the heat has not be-

come greatly lessened, line only one side, putting it on the back of the bed, and in about a week line the front. This manure on the outside should be about twelve or fifteen inches wide and should be covered with two inches of earth to prevent the rank steam of the new manure from coming up and entering into the frame, which would prove fatal to the plants. By applying this hot manure at the proper time and renewing it when necessary, you can keep the bed at a proper temperature of heat and of sufficient duration to keep the plants growing freely until ready for planting out into the other beds.

When the first two rough leaves appear about two or three inches broad and they have commenced to run, they will be ready to be transplanted out permanently into the larger beds.

For the first transplanting proceed as follows: During February there are usually some winter beds which have been used for lettuce which now have nothing growing in them. First of all, take away the soil from the top of the old bed and break up the old manure which is not yet exhausted, mix an equal part of new, hot manure with this and remake the beds; when made, put the frames on, spread on about five inches of good earth, then put on the sash immediately. When the heat has fallen to the level of eighty-five degrees Fahr., one inch into the soil, transplant the canteloupe into this bed. Cucumbers should be transplanted in exactly the same way.

The early cauliflower plants in the frames should be given plenty of air each warm day by taking the sash entirely off. At the end of a month, if the weather is warm and settled, transplant some of the strongest plants to the bed where they are to remain permanently. Plant them in rich, well-manured ground thirty inches each way. If the weather is cold and unsettled, do not plant until next month.

Tomatoes should be raised in a hot-bed in February and as soon as they are ready, replant them out into the frames which have held the lettuce and which are partly exhausted. The plants should be about two inches apart. When they are fair size they should be potted into large paper pots, kept in the frames and planted out in the open ground in May, after there is no longer any danger of frost.

CHAPTER X.

WHAT TO DO IN MARCH.

CARE OF EARLY CUCUMBERS AND CANTELOUPES—HOW TO MAKE A MINT BED.

Be sure to examine your cucumber and melon hot-beds, making sure that their heat is well maintained, so as to keep the plants growing freely. Keep the heat moderate and the plants will set well and will show fruit plentifully.

If the heat lessens, add a new lining of fresh stable manure to the back or front of the bed as required, but if the heat is steady, line only one side at a time, adding on the other side about ten days later; make the lining about a foot wide and allow to run up about five inches on the sides of the frames; cover the top with earth to the depth of about two inches to keep the steam down.

Allow the beds to have plenty of air whenever you can. Raise one end of the sash about one or two inches, depending a great deal on the state of the weather. On sunny, warm days allow more air than on cold and cloudy days; always close the sash in the evening before sundown. Keep the sash closed at all times when it is cold. Water the beds whenever needed, but only on warm, sunny days and water very little, the best time to water is around the noon hour.

Cover the sash every evening with your straw mats just after sundown, and uncover again in the morning about an hour after the sun is up or just as soon as the sun shines on the sash fully.

All the early plants, especially the cucumbers, raised last month will now have begun to run and show fruit; as soon as they do, train the vines regularly over the surface of the bed at equal distances and peg them down neatly. Be careful at this early stage to set or impregnate the fruit blossoms or female with the male flowers.

At the beginning of this month make new hot-beds and sow

more cucumber and canteloupe seed. About the middle or toward the latter end of this month sow again in order to have a supply of young plants, either to plant into new beds or to take the place of such plants that have died.

If you intend raising asparagus roots for future use in hot-beds this is now the time to sow the seed. The seed can be sown in the middle of the month in good, rich ground. Sow in drills an inch deep and six inches apart. The plants will come up in a month to six weeks, when they should be watered occasionally in specially dry weather to strengthen and push their growth. The bed must be kept carefully weeded during the summer months.

This is the time to make your mint beds, so to have a full supply for forcing in the early spring.

The plants can be propagated either by parting the roots or by slipped roots of the young, spring plants being taken up with plenty of root; also by cutting during April and May.

But this month the best way is to part the roots.

Plant in rows about six inches apart and five or six inches distant in the rows, also water them well to settle the soil closely around the roots.

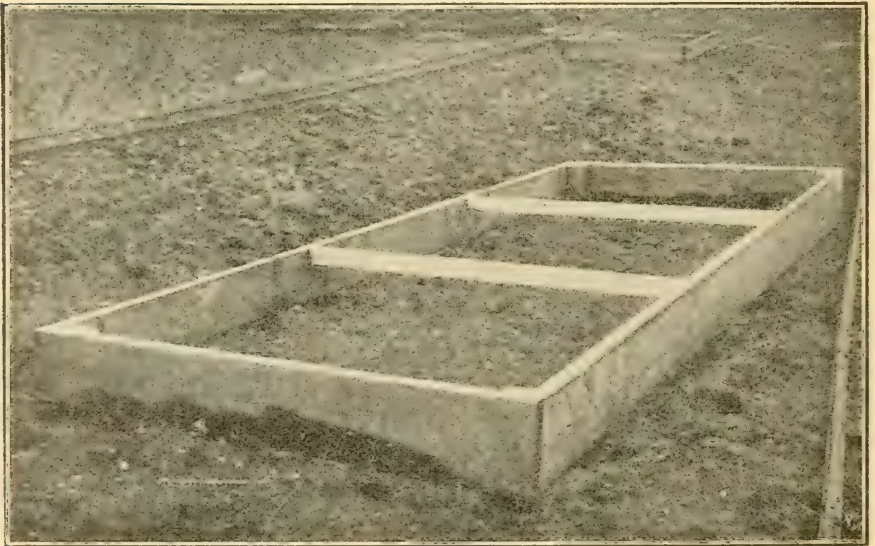
To propagate mint by roots get a quantity of old roots, part them, then make drills with a hoe six inches apart, place the roots in the drills, cover them about an inch deep with the earth and then rake the ground.

The roots can be procured in February or the beginning of March or in October and November. The plants will thrive in almost any soil or situation. They will quickly take root and grow very freely, producing a crop the same year, and these roots will produce a crop annually for many years.

For forcing purposes the roots must be dug up, the ground will be found to be full of them; spread them very thickly on exhausted lettuce beds, and cover with about two inches of soil. These plants will grow rapidly and be ready for cutting in a short time.

Dress the strawberry beds this month if you have failed to do so up to this time. The sooner you do it the better, but do

not litter them down as yet. The beds being clear of litter, loosen the earth between the plants and then add a little of very rich, black earth to the beds, it will strengthen the plants and they will flower strongly and produce large fruit. About the middle of this month is the best time to put on the sash, as recommended. Litter them down when they have nearly finished flowering, not before, as the litter gets damp and attracts the frost if they become too far advanced. The fruit will be ready for the last week in May or the first of June, when there is a good demand for them.



The frame of a hot bed before asparagus has been placed for forcing.

CHAPTER XI.

WHAT TO DO IN APRIL AND MAY.

CAULIFLOWERS AND CUCUMBERS.

The early cauliflower plants in the hot-beds should have the earth raked up to their stems in April. This will give them a stronger and more vigorous growth. The sash must still be kept over these at night and during cold, rainy weather. When the days are warm or when there are warm rains the plants should be exposed to the air. When they are pretty well advanced in growth towards the end of this month or the first of next, the sash can be removed altogether. If any of the winter standing cauliflower plants in the frames were not transplanted last month, you must do it now as directed.

The cauliflower plants should now be at their best, so must be carefully watched and attended.

Keep the beds in moderate heat by applying fresh manure whenever necessary. This was explained in the two preceding chapters.

The plants should be moderately watered about twice a week. Either in the morning or afternoon will be the best time to water at this season of the year. The plants will also demand having fresh air whenever the weather is mild, if the sash are kept on when the sun is warm it will destroy the plants. It is well to raise one end of the sash each warm morning about nine o'clock being early enough, as the weather becomes warmer raise the sash two or three inches more each time.

The sash must be put down each evening about five or six o'clock, and on cold evenings they must be closed an hour earlier.

The plants must be shaded on every hot, sunny day between eleven and two o'clock. It will be very well to keep covering the sash with mats during this month; as a rule, cover up towards sunset and uncover them in the morning. The early cucumbers should now be in full bearing, but continue to set

the young fruit notwithstanding, as it blossoms. It is best to do this either on the day that the flower expands or on the following day, but do it in the forenoon. This is absolutely necessary. Refer to cucumbers in March and April.

CHAPTER XII.

WHAT TO DO IN JUNE.

HOW TO MANAGE THE CANTELOUPE—HOW TO MANAGE THE CUCUMBERS—CARE OF CAULIFLOWER, NOW PERFECT.

The canteloupe plants that are now in the frames, should still be moderately shaded in the middle of the day; that is, when the sun shines strongly, and particularly so where the plants do not stand the sun well. The mid-day sun is likely to exhaust the juices of the vines and roots, which would greatly check the young fruit.

Spread the mats over the sash when the sun is very strong, but do not use heavy ones, that would darken the plants too much. They should only be put on in mid-day, say from eleven to three.

Give the plants plenty of fresh air each day by raising the sash on one end. Water very little every week or two. Keep the soil moderately wet, especially when the plants are setting their fruit. If there is too much humidity it would prevent them setting and make them turn yellow. After they are set they may be watered more freely. It is never wise to water too much, as too much water would prove harmful to the roots and the stem of the plants and would make them rot and decay.

Continue to cover the sash each night with the light mats till about the middle of the month.

Strawberries must be well supplied with water in dry weather, as the plants will soon be in blossom.

The watering should be repeated each day in very dry weather about the middle of this month. This is absolutely essential, but the principal crop of strawberries will now be setting and beginning to swell and while the berries are taking their growth the plant should be encouraged by keeping the earth in the beds just a little moist. You will be able to see the advantage of this in the increased size of the fruit and in the quality of it. Never water, however, unless the sun is very strong and the fruit requires it.

Be sure to take good care of the cucumber plants in the frames. They should be kept well supplied with water and fresh air.

These plants in hot weather should be watered every two or three days. In the morning, afternoon or towards evening is the best time of the day during this month.

Give the plants air each day by raising one end of the sash. You should, however, close the sash at night during all of this month.

On warm, sunshiny days it will be better during the hottest time to shade the plants with garden mats or possibly a loose straw litter spread over the sash will answer the purpose.

Keep watching the early cauliflower plants every now and then. Pull the larger leaves over the heads, as they appear ready to be cut. The plants that are still growing or those that are partly flowering should be well watered during very dry weather; this will keep the plants growing and will produce larger heads.

Hollow a ditch around each plant to hold good waterings, applying it gradually, so it will moisten the earth as far as the roots extend. They will need no more watering and the little ditch can again be filled with water.

CHAPTER XIII.

WHAT TO DO IN JULY.

SOWING INDIVE SEED—PLANTING DWARF KIDNEY BEANS—SOWING CARROT SEEDS.

This is the month that endive seed should be sown in order that you may raise a supply of plants for use at the end of autumn for the principal winter crop.

Select some good, green curled seed, selected from some seed catalog, that will prove the best variety for your regular supply during the winter. Sow this variety twice at different times during this month. Sow the first seed between the first and tenth, and the second about the twentieth. The seed should be thinly sown, trodden down and evenly raked.

Water occasionally in dry weather, so as to start the plants growing early. They will also come up regularly if watered.

It would be well to plant a late crop of dwarf kidney beans. The seed must be planted the first week in July, again about the fifteenth and then on the last of the month. This will allow you to gather them until the first of January.

They may be planted in almost any kind of ground. Plow the ground and plant the beans in rows.

If the weather should be very hot at this time and the ground very dry, it would be well to water the drills before planting the seeds or you could soak the seeds for five or six hours and then plant the seeds immediately. Do not soak the beans, however, unless the ground is very dry, the better plan would be to water the drills only. Plant the seeds immediately and cover with earth to the depth of an inch.

During the first week of this month it will be well to sow carrot seed; this will give carrots in the autumn and winter. Choose a light piece of ground, plow, and sow the seeds moderately heavy and rake evenly. When the plants have come up an inch or two, thin them to a distance of six or eight inches.

The cucumbers in your frames will now require care. The sash must either be opened wide, or taken off entirely on warm days. If the weather is not favorable or there is much rain you must still use the sash, but give plenty of free air above. When the weather is dry water plentifully and when the sash are kept on, raise one end of the sash so as to allow fresh air to the plants.

When plants have just been reset, water only in dry weather until they have taken root. Water all beds where seeds have just been planted only in dry weather. This is also true where small plants are just coming up. At this time of the year and in sunny weather it is best to water in the morning or late in the evening. The best hours in the morning will be between sunrise and nine o'clock, and between the hours of four and eight in the evening. Watering at this time is very much more effective, as the moisture has time to settle gradually into the soil before the plants are exposed to the hot rays of the mid-day sun.

CHAPTER XIV.

HOW TO MAKE A STRAW MAT.

Most gardeners make their own straw mats. They can be made in several sizes and thicknesses, but it is best not to make them too big or thick, so they will not be too heavy and also that they may dry out quickly after having been wet.

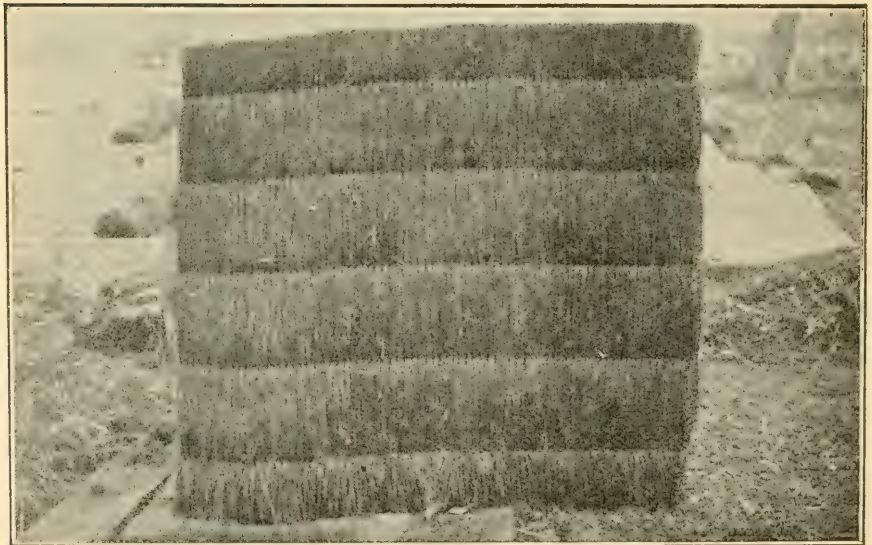
As a rule they are made six feet long and three feet wide. They can be used both for covering sash to protect them from the cold, and also for shading purposes.

Select a level floor or a piece of ground that is level, take two one-inch boards seven feet long and six inches deep, lay them parallel at a distance of four feet, seven inches from each other. The space between these two boards is divided into four equal parts by laying five pieces of line or heavy twine one foot, one inch apart, beginning the first immediately next to the one board. At both ends of each line of twine place a small wooden peg the size of your finger. These pegs should be fastened in the ground the same distance from each other as the length of the planks. Then get a line that has been tarred and tie one end to each peg. You now have five lines of tarred twine about six and one-half feet long. It is best to double the twine in order to have enough to sew the straw on the cord that is stretched on the pegs. It will be necessary to stretch three twines the length of the stretched cord that is to make six yards before cutting the twine.

You can wind the loose end of the twine on a small stick or bobbin that it may be easier handled. Lay some clean rye straw on the twine that is stretched to the depth of one inch and place so that the straw comes out against the planks; be sure to make the mats of equal thickness. Begin at the end of the twine that is tied to the small stick or bobbin, with the left hand take a small bunch of straw about the size of a broom stick and raise both it and the cord which is below, then, with the right hand, pass the bobbin under the stretched cord and bring it back to the left hand. In this way you encircle the

bunch of straw, which you tie tightly. Then take another bunch of straw and proceed as before.

These mats are some trouble to make and can be purchased at any seed store if you do not care to undertake the making of one.



A straw mat complete, you can make these or they can be bought ready made.

CHAPTER XV.

SUMMER CROPS.

BEANS.

Beans do well on a warm, sandy loam, but may be grown on almost any kind of garden soil. Beans are divided in two classes, bush and pole beans, and each class subdivided into green, wax, lima and shell beans. By successive planting a continuous supply may be had from early summer until late fall.

Beans should not be planted in quantity until the ground is thoroughly warm. Although a few bunch beans can be risked as soon as the ground can be worked.

Pole beans require somewhat richer soil and the labor is more troublesome, as it requires much preparation and setting of poles. They are, however, much superior to bush beans in quality.

Lima beans require a rich soil and should be planted later than bush beans.

Later plantings of bush string beans can follow early crops of lettuce, carrots, beets and radishes.

BEETS.

Beets give best results in rich, sandy loam. You can sow the seed as early as you can work the ground. Sow in drills twelve to eighteen inches apart and later thin to about three inches in the row. To secure a young and tender beet, successive sowing should be made at intervals of four to five weeks. Crops intended for winter use should not be planted until July.

Before the weather is too freezing pull, top them and cover with earth in piles in the field or with moist sand in the cellar.

BRUSSEL SPROUTS.

Brussel sprouts are grown the same as cabbage but may be grown closer together. When the heads begin to crowd, the leaves should be broken off of the stem in order that they may have more room. They are very hardy and are improved by freezing. You can leave them out all winter if given some protection or you can pull them when hard winter freezing weather comes; stand them upright in the cellar, place some soil about their roots or put them in a pit and cover with straw.

CABBAGE.

Seed should be sown for early crops of cabbage in cold frames or hot-beds about February 1, and transplanted when the plants show the third or fourth leaf. They should be hardened off and ready to transplant to the open ground about the 15th of April. Early crops of cabbage may be followed by late beans, spinach, beets or carrots.

For a late crop of cabbage plant seeds in the same manner in May or June and transplant to the open ground in July. The seeds could be planted in the field and thinned out, but they are easier cared for in the beds. It also saves the labor of cultivating which would be necessary if set in the field. The only disadvantage in planting in the beds and not in the field is their likelihood of dying from the hot weather when being transplanted. Cut off about one-half or two-thirds of the leaf surface at transplanting. You can leave cabbages in the ground until severe freezing weather, then pull them, the heads set in a trench with the roots up and covered with about six inches of soil and enough mulch to keep cabbages from freezing.

CELERY.

Celery of fine quality can be grown in any deep, rich soil. Celery seed is very small and is unusually hard to germinate.

Fresh seed must be used each season as old seed loses its vitality. The seed bed must be pulverized very fine and the seed should be covered very lightly with soil not more than one-eighth of an inch. The soil must not be allowed to dry out. The beds can be shaded with cheese cloth to prevent this. At the same time do not water the bed too much as it will rot the seed. It is best to transplant celery plants at least once before setting them out finally in the field. When about a month old they should be transplanted about two inches apart. When you transplant them to the field it is best to cut off part of the tops. In the final planting you set them about six inches apart in rows from three to four feet apart, usually on ground which has produced a crop of early potatoes, radishes, beets, etc.

It is necessary to blanch celery. In early or self-blanching varieties this is done by placing two boards, one on either side of the row close to the plants. Only a few leaves are allowed to come above the boards. The boards are held in place by cleats nailed across the row at intervals. When the plants are fairly good size, draw the stalks closely together with your hands and place soil against either side of the plants. Another and final handling is given about two weeks before the celery is to be dug. When the plants are banked with soil until very few leaves are left uncovered. Be careful not to allow the soil to fall down inside the crown of the plants. The celery to be used during the winter can be left in the ground and covered with straw to keep from freezing. If intended to keep until late winter, however, the celery should be dug and placed close together in a trench which should be covered with boards and the boards covered with soil and mulch to keep from freezing. It may also be kept in a cool cellar, stand the plants upright in a few inches of soil. Spaces must be left at intervals between the rows of plants to afford ventilation.

SWEET CORN.

Sweet corn can be grown very profitably by any one in reach of a good market. Any surplus that cannot be sold can be fed

to stock. Succession of crops can be had by frequent planting or by planting at the same time several varieties which mature in different periods of time. For the latest plantings use an early variety. Corn as a rule is grown in hills, especially in field culture. In a small garden it is best to plant in drills about three feet apart, thinning to one foot apart in the rows, giving level culture.

EGG PLANT.

Egg plant is grown very similar to the tomato. These seeds are very difficult to germinate and should be sown in soil directly over the manure of a hot-bed. They must not be transplanted to the field until very warm weather.

KALE.

Kale belongs to the cabbage family and is used as greens during the fall, winter and spring. It is a very hardy plant. Seeds should be sown in September. The plants can be protected through the winter with a covering of leaves or straw. The flavor is improved by frost, so it is best to leave them in the ground and protect them as told above.

ONIONS.

Early crops of onions can be secured in several ways. Sets of potato onions planted in the fall will give early green onions. The best way of producing bunch onions in early spring is to plant as early as the ground can be worked with white onion sets. These sets are secured by sowing onion seeds very thickly during the latter part of the summer. Either white or yellow sets may be allowed to remain until they are matured, which will be earlier than the crop grown from seeds. The seed for the main crop should be sown in drills one foot apart and later thinned to about two inches apart in a row. You not get the seed bed in too rich or too fine a condition. If you allow the

onions to grow late into the season maturity may be hastened by rolling a barrel over the tops. When these have become dry the onions should be raked up into narrow windrows with a wooden rake and allowed to dry. The onions should then be put into crates or bags and stored in a dry, cool place.

PARSNIPS.

These should be planted in deep, loamy soil in order that you may secure long, smooth roots. Sow the seed in drills about one-half inch deep and thin the plants to about three inches in a row. Roots can be dug late in the fall and stored in a cellar or in a pit covered with sand or soil to keep them from withering, or they may be left in the ground and dug in the spring.

PEAS.

For the very early crop of smooth peas plant just as soon as the ground can be worked in the spring. These smooth peas are inferior to the wrinkled kind, some of which are but a few days later in maturing. By making frequent plantings or by planting early medium or late varieties at the same time a succession of peas can be obtained. In hot summer months peas do not do as well as earlier on account of mildew attacking the vine. You can plant, however, in July and August early maturing plants that will allow you to pick in the fall months. Dwarf varieties may be grown without support, but the tall varieties demand some sort of support furnished the vine.

PEPPERS.

Peppers are grown in a similar manner to tomatoes. They may be grown as a succession crop after early lettuce, radishes, etc. They should find a ready market in either the green or dry state.

SPINACH.

This vegetable is of very simple culture; several crops can be raised in a season. It is ready for use from thirty to sixty days after planting. It can be sown late in the fall and protected through the winter with straw. It can be grown as an inter-crop, as soon as the ground can be worked. Plant two rows one foot apart between what will later be two rows of beans. The beans should be planted as soon as it is warm enough without disturbing the spinach, and the spinach will be grown and cut before the beans are large enough to be injured by its presence.

TURNIPS.

Turnips may be grown as an early or a late crop. For the early crop use seed of the early white milan. Sow as soon as the soil can be worked in the spring. Later successive sowings can be made of white egg seed. For the winter crop use white egg or American red top seed sown in July or August. Turnips can be left in the ground until freezing weather, when they should be pulled, topped and covered with soil in piles in the field or stored in a pit or cellar.

GARDENING POINTS WORTH WHILE.

On cold nights sash can be covered with old carpet or heavy canvas instead of straw mats.

There are few crops grown in the garden that cannot be followed by later crops.

A good way to handle manure for garden purposes is to spread it in broad, flat piles and allow it to rot, then apply 100 pounds of acid phosphate and 100 manure and mix this well when you put it in apile. This will add to the manurial value of the pile and will prevent the loss of amonia to a great extent.

Intensive cultivation demands intercropping, and when this is done most liberal manuring is necessary for the highest returns.

Many growers do not know the value of humus; they are satisfied with their soil. Humus is the life of your land. Add vegetable matter to your soil whenever you can.

Do not plant the same crop on the same land each year; rotate. Disease and insects will become troublesome if you don't.

As a general thing gardeners will not plant string beans until the season is well advanced. This is a mistake; take a chance. Plant a small crop early at the risk of losing by frost. If you lose them the loss is small, and you can plant them again. Prices are high for early beans, and you can afford to risk the loss.

Sheep manure is one of the best farm manures. It contains a large percentage of nitrogen and a proportion of phosphoric acid and potash.

You can prolong your tomato season by taking up all plants

and piling them in a heap. The small green tomatoes should be pulled off for pickling and the large ones allowed to remain for ripening.

Parsnips and carrots are much better if allowed to remain in the ground until the weather freezes. Cover them with manure and they can be dug up at any time.

Success in intensive cultivation can come only through a thorough knowledge gained by study and close application to the work. You must know how to rotate your crops, that is, how to follow one crop with another, what crops to plant for early growing and what to plant for late crops.

It is always more profitable to grow a crop that your neighboring truck gardener is short on, also always plant just enough of each crop that will allow you to sell as long as the demand is good.

Another thing that goes to make vegetable growing a success is irrigation: have water at hand where you can irrigate when your garden demands it; there isn't anything that makes vegetables tough and woody as lack of water.

Success in intensive cultivation depends a great deal on raising the proper kind of vegetables; do not try to sell your customers a poor-looking or a tasteless vegetable.

Other things that go to make intensive cultivation a success are manure, and constructive work in your garden. Confine yourself to a small garden spot and work that hard rather than work over a large one and give it only half enough attention.

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